ORDER NO. TD97020571C2

Service Manual

Radio Cassette

RQ-V202

Stereo Radio Cassette Player

Colour

(S)·····Silver Type

Area

Suffix for Model No.	Areas	Colour
[EG]	Europe	(S)

■ SPECIFICATIONS

General

Power Requirement: Battery; DC 3V
(two "AA" size, R6/LR6 batteries)
●Do not use rechargeable type batteries.
Power Output: 10mW (5mW×2)···RMS (max.)
Output: Headphones; 30Ω, φ3.5
Dimensions: 114.3(W)×86.6(H)×38.0(D)mm
Weight: 179g without batteries

Radio Section:

Radio Frequency Range: FM; 87.5~108MHz (0.05MHz step)
AM; 522~1629kHz(9kHz step)
Intermediate Frequency: FM; 10.7MHz
AM; 459kHz
Sensitivity: FM; 5.62μV/0.1mW output
(−3dB Limit, Sens)
AM; 316.2μV/m/0.1mW output

Tape Deck Section:

Frequency Response: 40~16,000Hz (Normal, HIGH/Metal)
Tape Speed: 4.8cm/s
Program Time: 1 hour with C-60 cassette tape
Track System: 4-track, 2-channel stereo playback

Notes:

1. Weights and dimensions shown are approximate.
2. Design and specifications are subject to change without notice.

⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

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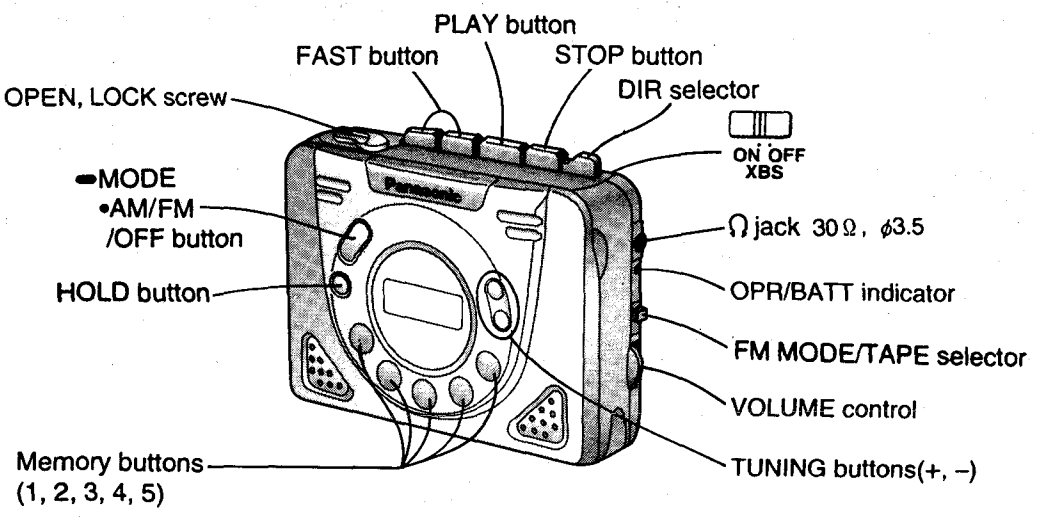
■ LOCATION OF CONTROLS



■ DISASSEMBLY INSTRUCTIONS

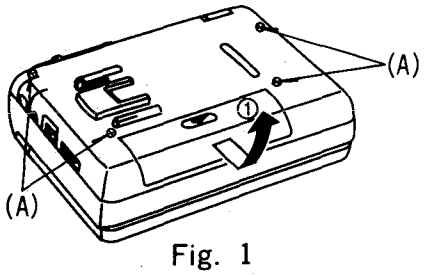


Fig. 1

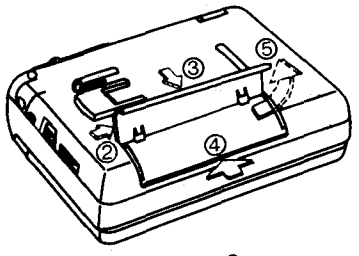


Fig. 2

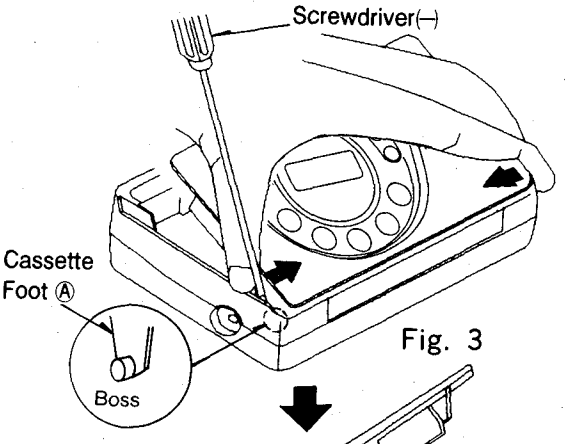


Fig. 3

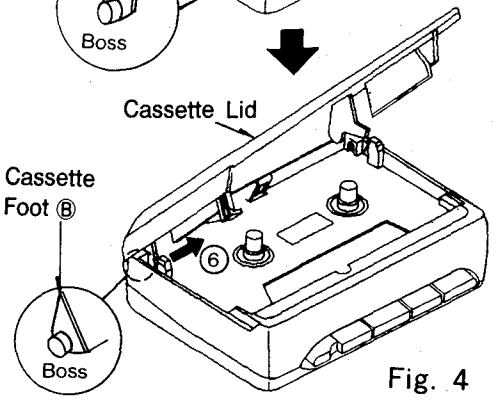


Fig. 4

● Removal of the battery cover and Rear Cabinet

1. Open the battery cover in the direction of arrow①.
2. Remove the battery cover in the direction of arrow ② and ③.
3. Remove the screws (A) (2×10)mm×4.
4. Remove the rear cabint in the direction of arrow④ & ⑤.

● How to Removal of the Cassette Lid

Note: Be careful not to break cassette foots Ⓐ and Ⓑ when removing the cassette lid.

1. Strongly press two sides of the cassette lid, then it was bent a little.
2. With a (–) screwdriver as shown in Fig 3, and pull out the right-side of the cassette lid.
3. By the direction of ⑥, remove the cassette foot.

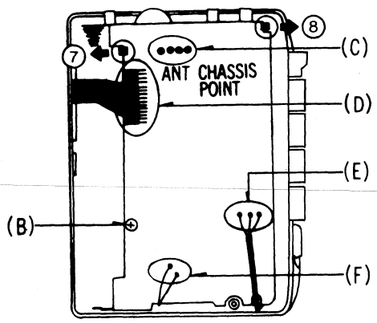


Fig. 5

●Removal of ANT Chassis and Circuit Board (Fig. 5)

1. Remove the screw (B) (2×6)mm×1.
2. Disconnect the solder(C).
3. Remove the ANT chassis in the direction of arrow ⑦, ⑧.
4. Remove the solder(D).(E).(F) from flexible P.C.B.

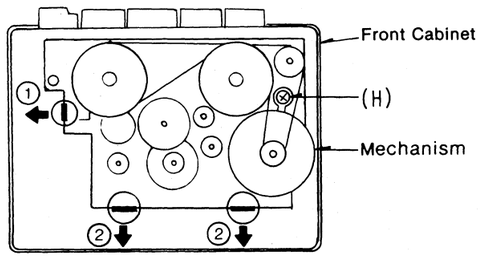


Fig. 7

●Removal of the Front Cabinet and Mechanism

1. Remove the deck screw (H) (2×6)mm×1
2. Remove the front cabinet & mechanism in the direction of arrow ①, ②.

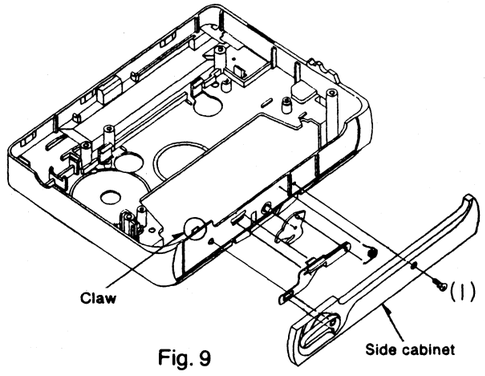


Fig. 9

●Removal of the side cabinet

1. Remove the screw (I)×1.
2. Remove the claw.
3. Remove the side cabinet.

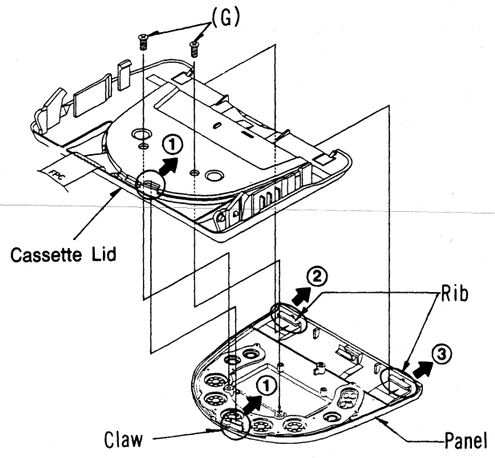


Fig. 6

●Removal of the LCD P.C.B. (Fig. 6)

1. Remove the screws (G) (1.4×3.5)mm×2.
2. Remove the Cassette Panel in the direction of arrow ①, ②, ③.
3. Remove the LCD P.C.B.

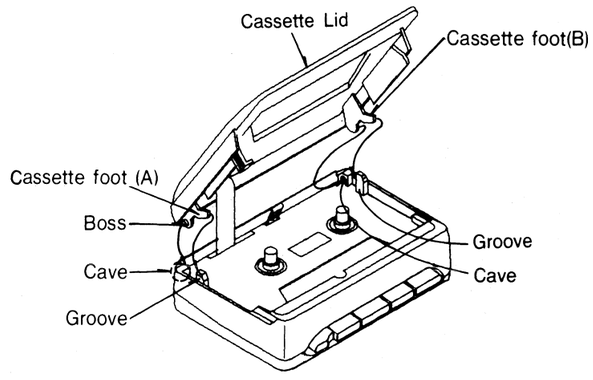


Fig. 8

●How to Replace the Cassette Lid Spring

1. Enter the cassette foot (A) into the groove of the case body.
2. Enter the boss of the cassette foot into the cave.
3. Enter the cassette foot (B) into the groove of the case body.

■ REPLACEMENT PARTS LIST

Notes: The (T) Indicates parts that are supplied TAMACO
The (M) Indicates parts that are supplied MESA

Ref. No.	Parts No.	Parts Name & Description	Values
INTEGRATED CIRCUITS, TRANSISTORS AND DIODES			
IC1	AN6612SE2	I.C.MOTOR DRIVE	(M)
IC2	TA8122AFT	I.C.AM/FM RF/IF AMP	(T)
IC3	LA4571MBT	I.C.PRE/POWER AMP	(T)
IC201	TC9316FB085	I.C.MICRO COMPUTER	(T)
IC202	TD6134AFT	I.C.RESET	(M)
IC203	S80719SLAGT1	I.C.RESET	(M)
ICP1	SRUN25T	I.C.PROCTECTOR	(T)
Q1,3,5	RVTDTC144EUX	Transistor	(T)
Q2,6	2SA1577QT106	Transistor	(T)
Q4,13	RVTDTA143XUX	Transistor	(T)
Q7	2SB1132RTX	Transistor	(M)
Q8,11	RVTDTC143TUX	Transistor	(T)
Q9	FMG8TX	Transistor	(T)
Q10	2SC4326LKSTX	Transistor	(T)
Q14	RVTDTA124EUX	Transistor	(T)
Q201,202, 204,205	2SC4081RTX	Transistor	(T)
Q203	2SK303V3TB	F.E.T.	(T)
D1	SB07-03CTX	Diode	(T)
D2	L1144HDL58	L.E.D.	(T)
D3,4	KV1450TLA3-4	Diode	(T)
D5,204	RVDDAN202UTX	Diode	(T)
D6	KV1560TL3-0	Diode	(T)
D201	DZD12YTB	Diode	(T)
D203	DCC010TX	Diode	(T)
COILS AND TRANSFORMERS			
L1	RL04Y254-L	Antenna Coil FM	(T)
L2	RL04Y15-2	Antenna Coil FM	(T)
L3	RL02A011M-M	Oscillator Coil AM	(T)
L4	REKT0006	Bar Antenna Ass'y (Withe Antenna Chassis)	(T)
L5	RLQZ010KM-M	Choke Coil RF	(T)
L201	RL09U019T-M	Oscillator Coil	(T)
T1	RLI2A37M-M	I.F.T. AM	(T)

Ref. No.	Parts No.	Parts Name & Description	Values
VARIABLE RESISTORS			
VR1	EVNDXAA02B32	V.R.Tape Speed	(T)
VR2	EVUBAAT50A54	V.R.Volume	(M)
TRIMMER CAPACITOR			
CT1	ECRLA010A53R	Trimmer CAP	(M)
CERAMIC FILTERS AND CRYSTAL			
CF1,2	RLFFETWL06AD	Ceramic Filter FM	(T)
CF3	RLFDFT15AD	Ceramic Filter FM	(T)
CF4	RLFCFA459L02	Ceramic Filter AM	(T)
CX1	RSXZ456KM05	Ceramic Crystal AM	(T)
CRYSTAL			
X201	RSXD75K0S07	Crystal	(T)
LCD			
LCD201	RSL5178-P	L.C.D.	(T)
COMPONENT COMINATION			
Z1	RCRBMT002-H	Band Pass Filter	(M)
SWITCHES			
S1	RSH1A021-U	SW, Motor	(T)
S2	RSS2B54YA-K	SW, MET/NOR	(T)
S4	RSS2B017-K	SW, SBX	(T)
S5	RFA117ZA	SW, FWD/REV	(T)
JACKS			
J2	RJJD3S5ZB-C	Headphones Jack	(M)

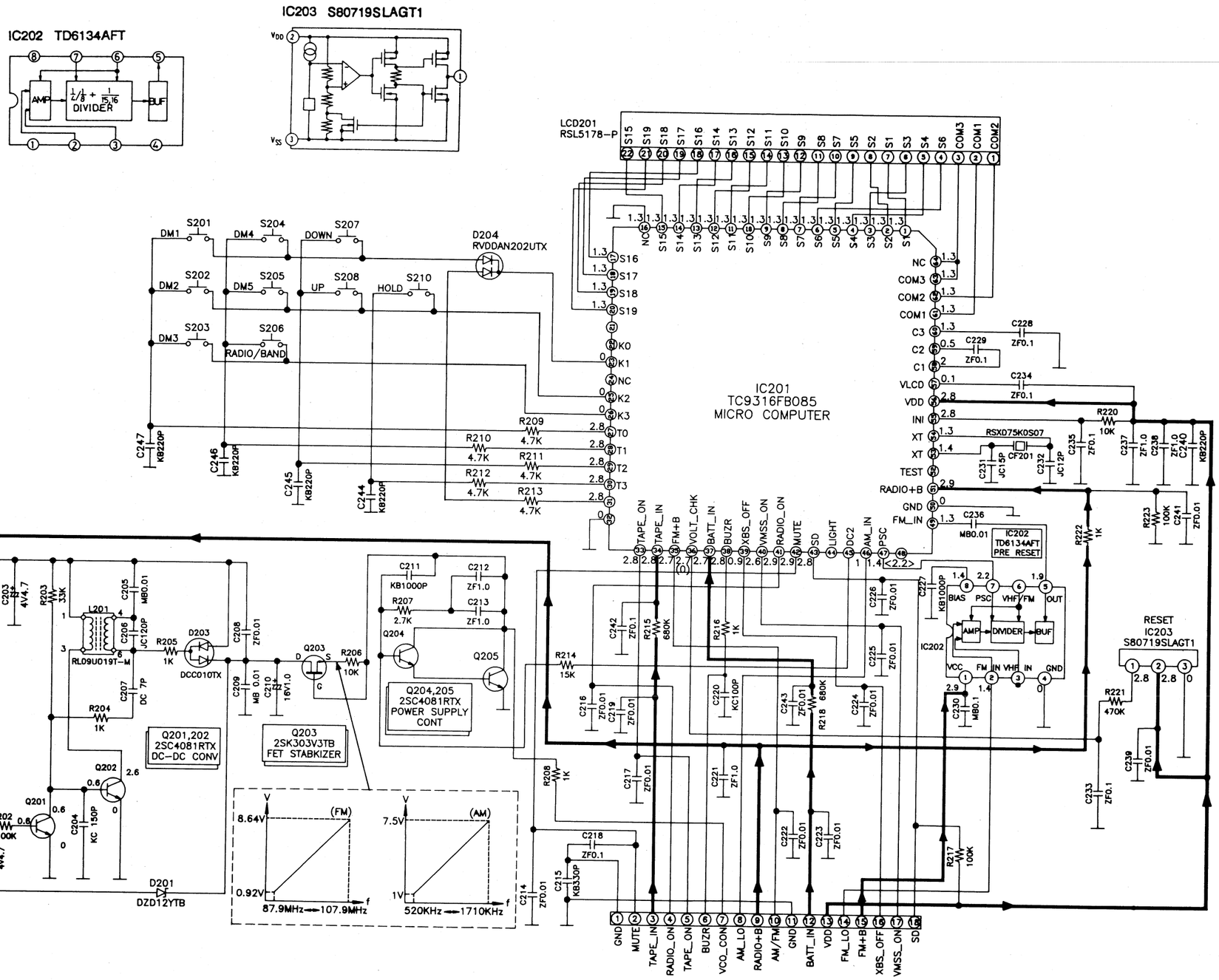
Ref. No.	Parts No.	Values
RESISTORS		
R1,2	ERJ6GEYJ331V	(M)
R3,44	ERJ6GEYJ102V	(M)
R4,13	ERJ6GEYJ104V	(M)
R5,6	ERJ6GEYJ333V	(M)
R7,8	ERJ6GEYJ684V	(M)
R9,10,31, 50	ERJ6GEYJ102V	(M)
R11,12,20, 59	ERJ6GEYJ473V	(M)
R14,15,56	ERJ6GEYJ152V	(M)
R16,17	ERJ6GEYJ224V	(M)
R18,19	ERJ6GEYJ822V	(M)
R22,26	ERJ6GEYJ472V	(M)
R29	ERSL39JR70U	(T)
R30	ERJ6GEYJ1R5V	(M)
R32,51	ERJ6GEYJ103V	(M)
R33	ERJ6GEYJ821V	(M)
R34,60,67	ERJ6GEYJ472V	(M)
R35,38	ERJ6GEYJ471V	(M)
R36,39,69	ERJ6GEYJ223V	(M)
R37,52,57, 58,61,68	ERJ6GEYJ104V	(M)
R40	ERJ6GEYJ274V	(M)
R41,54	ERJ6GEYJ4R7V	(M)
R53	ERJ6GEYJ1R8V	(T)
R55	ERJ6GEYJ153V	(M)
R64	ERJ6GEYJ470V	(M)
R201	ERJ6GEYJ101V	(M)
R202,217, 223	ERJ6GEYJ104V	(M)
R203	ERJ6GEYJ333V	(M)
R204,205, 208,216, 222	ERJ6GEYJ102V	(M)
R206,220	ERJ6GEYJ103V	(M)
R207	ERJ6GEYJ272V	(M)
R209,210, 211,212, 213	ERJ6GEYJ472V	(M)
R214	ERJ6GEYJ153V	(M)
R215,218	ERJ6GEYJ684V	(M)
R221	ERJ6GEYJ474V	(M)

Ref. No.	Parts No.	Values
CHIP JUMPERS		
RJ1~7,10~15 202~204	ERJ6GEY0R00V	(M)
CAPACITORS		
C1,2	ECUV1H821KBN	(M)
C3,4,15	ECEA0JKS220I	(M)
C5,6	ECUV1H101KCN	(M)
C7,8	ECUV1H472MBN	(M)
C9,27,78	ECUV1H681KBN	(M)
C10,11,77, 85	ECUVNC105ZFN	(M)
C12,13,40, 47,54,55, 66,87	ECUV1H102KBN	(M)
C14,48	RCST1CY105RE	(M)
C16,45,59, 83	ECEA0GKS221I	(M)
C17,29,80	ECUV1C683MBN	(M)
C18,62	ECUV1H220JCN	(M)
C19,20	ECUV1H150JCN	(M)
C21,22	ECUV1H272MBN	(T)
C23,24	ECUV1C334ZFN	(M)
C25,26	ECUV1C104ZFN	(M)
C28,30	ECUV1C333MBN	(M)
C39	ECEA1HKS010I	(M)
C41,74	ECUV1C223MBN	(M)
C42,43,44, 60,86	ECUV1H221KBN	(M)
C50,52,76	ECUV1H470KCN	(M)
C51,56,61, 67,70,79, 81	ECUV1C104ZFN	(M)
C53	ECUV1H020CCN	(M)
C57	ECUV1H680KCN	(M)
C58,65	ECUV1E103MBN	(M)
C63	ECUV1H100DCN	(M)
C64	ECUV1H391GCN	(M)
C71	ECUV1H070DCN	(M)
C72	ECUV1H040CCN	(M)
C73	ECUV1H080DCN	(M)
C84	ECEA0GKS330I	(M)

Ref. No.	Parts No.	Values
C88,89	ECUV1C153MBN	(M)
C201,203	RCST0GY475RE	(M)
C202,212, 213,221, 237,238	ECUVNC105ZFN	(M)
C204	ECUV1H151KCN	(M)
C205,209, 236	ECUV1E103MBN	(M)
C206	ECUV1H121JCN	(M)
C207	ECUV1H070DCN	(M)
C208,214, 216,217, 219,222, 223,224, 225,226, 239,241, 243	ECUV1H103ZFN	(M)
C210	RCST1CY105RE	(M)
C211,227	ECUV1H102KBN	(M)
C215	ECUV1H331KBN	(M)
C218,228, 229,233, 234,235, 242	ECUV1C104ZFN	(M)
C220	ECUV1H101KCN	(M)
C230	ECUV1C104MBN	(M)
C231	ECUV1H150JCN	(M)
C232	ECUV1H120JCN	(M)
C240,244, 245,246, 247	ECUV1H221KBN	(M)

■SCHEMATIC DIAGRAM

LCD CIRCUIT



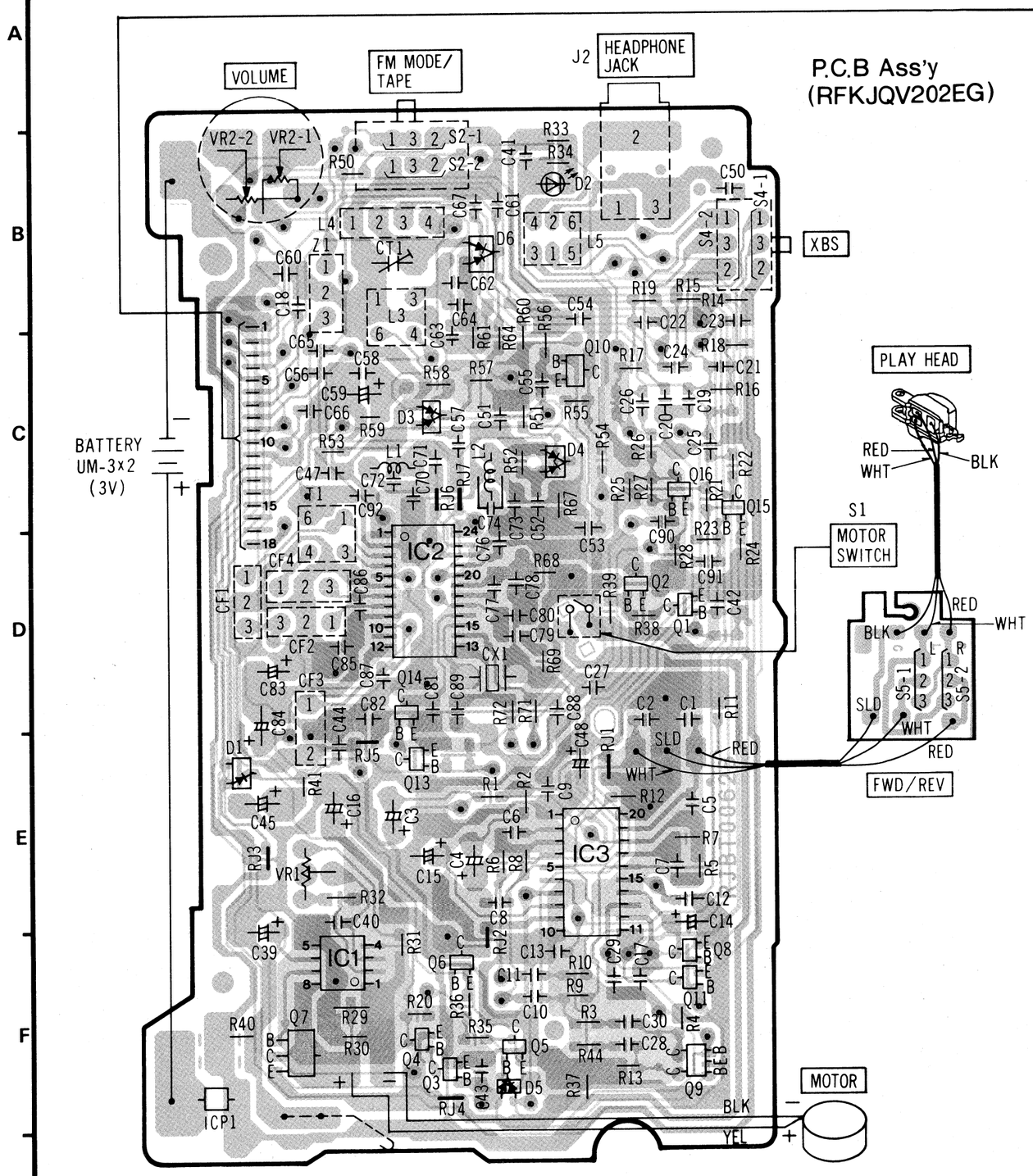
Notes:

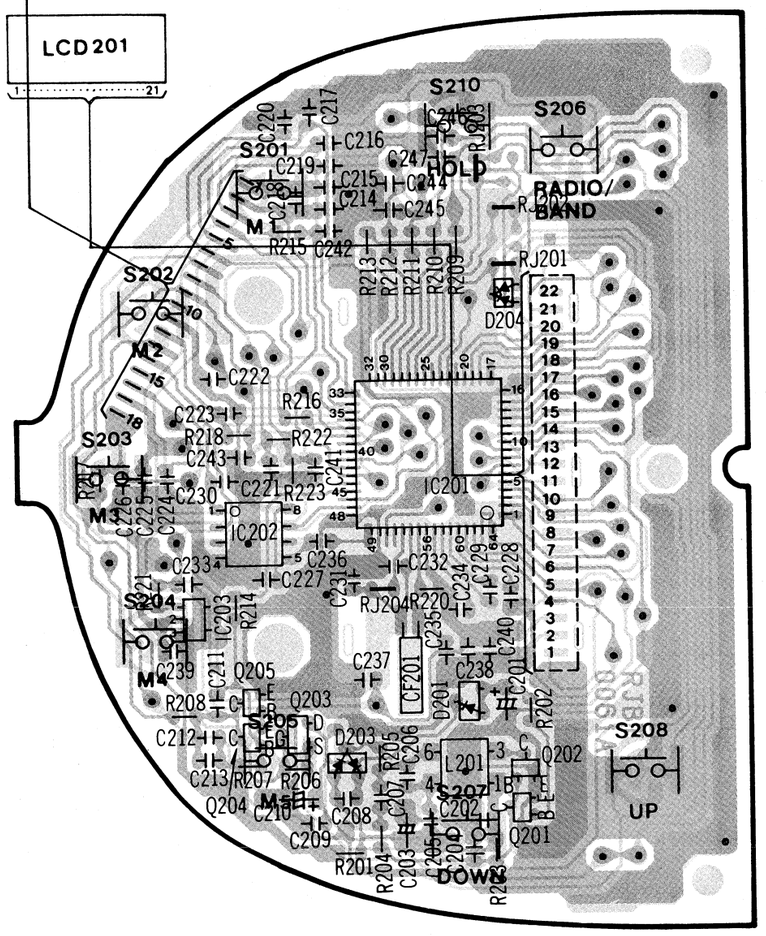
- ●S1: Motor switch in "OFF" position.
- ●S2-1: FM mode switch in "ST" position. (1···ST,2···MONO)
- ●S2-2: Tape selector switch in "NOR" position, (1···NOR,2···CrO_2/MET)
- ●S4-1, 4-2: XBS switch in "OFF" position. (1···ON, 2···OFF)
- ●S5-1, 5-2: FWD/REV select switch in "REV" position. (1···FWD, 2···REV)
- ●S201~205: Direct tuning switchs. [S201: 1, S202: 2, S203: 3, S204: 4, S205: 5]
- ●S206: Radio/Band/Mode select (-MODE/• AM/FM/OFF) switch in "OFF" position.
- ●S207: Tuning down switch in "OFF" position.
- ●S208: Tuning up switch in "OFF" position.
- ●S210: Hold switch in "OFF" position
- ●VR1: Tape speed adjustment VR.
- ●VR2-1: Volume control VR (Rch).
- VR2-2: Volume control VR (Lch).
- ●The mark (▼) shows test point e.g. ▼=test point 1.
- ●DC voltage measurement are taken with electronics voltmeter from negative terminal of battery.
  < >···FM position, ( )···AM position.
  No mark·····Playback position
- ●Battery current: Volume minimum output (Radio)····· 60mA
  Volume minimum output (Tape)····· 130mA
  Volume Maximum output (Radio)····· 75mA
  Volume Maximum output (Tape)·····175mA
  (Radio, 74dB 30% Modulation.
  Tape, 315Hz 0dB tape playback)

+B Voltage Line.
Playback Signal.
FM Signal.
Playback and Radio Signal.

- ●**This schematic diagram may be modified at any time with the development of new technology.**

■ PRINTED CIRCUIT BOARD AND WIRING CONNECTION DIAGRAM





Notes:

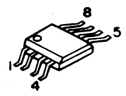
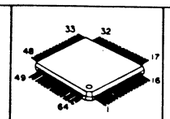
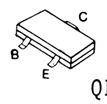
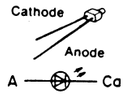
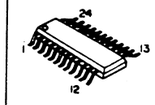
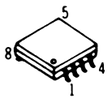
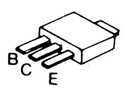
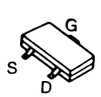
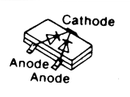
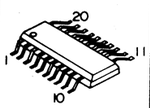
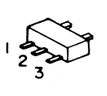
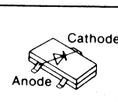
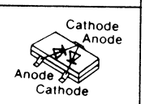
- In this printed circuit board diagram, the parts and foil patterns on the board facing toward you are printed in black.
  The opposite side is printed in blue.
- The " • " mark denotes the connection points of double-faced foil patterns (through holes) on both side of the printed circuit board.
- This printed circuit board diagram may be modified at any time with the development of new technology.

—●—: Chip resistor
—■—: Chip jumper (0Ω)

NOTES:

BLK .....Black	ORG .....Orange
BLU .....Blue	PNK.....Pink
BRN.....Brown	RED.....Red
GRY.....Gray	SLD .....Shield Wire
GRN .....Green	VLT.....Violet
L. BLU ....Light Blue	WHT.....White
NIL.....No Color Mark	YEL.....Yellow

■ TYPE ILLUSTRATION OF IC'S, TRANSISTORS AND DIODES

 IC1	 IC201	 Q1~6,8,10,11,13,14, 201,202,204,205.		 D2
 IC2	 IC202	 Q7	 Q203	 D3,4,5,6,204
 IC3	 IC203	Q9	 D1,201	 D203

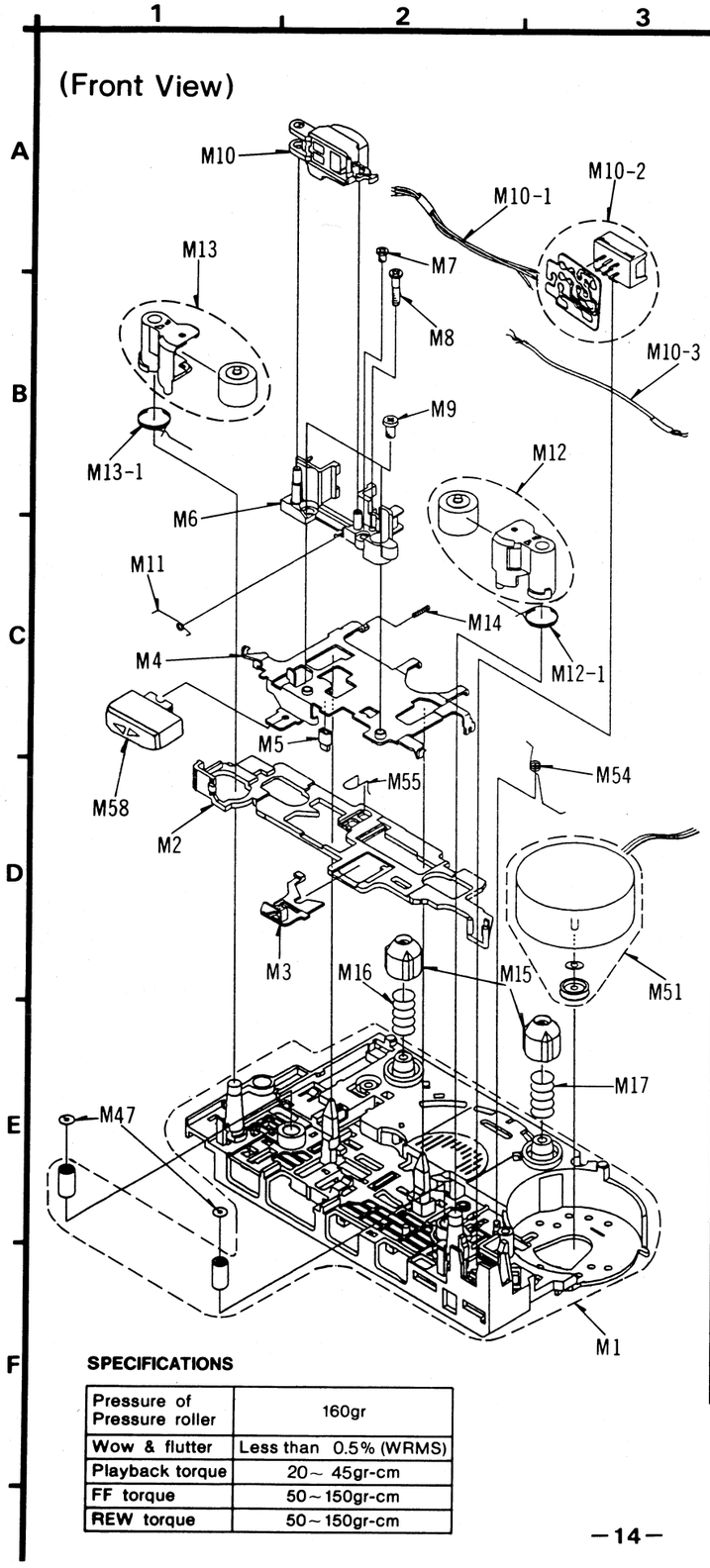
■ TERMINAL FUNCTION OF IC'S

● IC201 (TC9316FB085) : SYSTEM CONTROL & LCD DRIVE

Terminal No.	Terminal Name	I/O	Function
1~15, 17~20	S1 ∫ S19	O	Outputs terminals for LCD segment signals.
16, 21, 24, 32, 64	NC	—	Not connected
22 ∫ 23	K0 ∫ KI	I	Terminals for Key return signal input.
25 ∫ 26	K2 ∫ K3	I	Terminals for Key return signal input.
27 ∫ 30 31	T0 ∫ T3 OT0	O	Key return signal source output terminals for momentary switch on the key matrix.
33	TAPE-ON	O	Tape ON outputs the power out terminal.
34	TAPE-IN	O	Data signal input terminal
35	FM B⊕	O	Band select output terminal.
36	VOLD-CHK	I	Inputs the battery voltagedet signal.
37	BATT-IN	I	Data signal input terminal
38	BUZR	O	Outputs the buzzer out terminal.
39	XBS_OFF	I	XBS_OFF output terminal.
40	VMSS_ON	I	VMSS_ON outputs terminal
41	RADIO-ON	O	Radio ON outputs the power out terminal.
42	MUTE	O	Muting signal output terminal.

Terminal No.	Terminal Name	I/O	Function
43	SD	I	Data signal input terminal
44	LIGHT	O	LIGHT output terminal.
45	DC2	O	PLL error output terminal.
46	VCOL (AM IN)	I	Inputs the local oscillator (VCO) (0.5~40MHz)
47	PSC	O	Counter input prescaler.
49	VCOH (FM IN)	I	Inputs the local oscillator (VCO) (10~130MHz)
50	GND	—	For ground connection.
51	RADIO B⊕	I	Radio switch ON radio signal unused on this unit.
52	TEST	I	Test terminal.
53 ∫ 54	XT	O	Terminals used for connecting a quartz oscillator.
55	/INI	I	Device select signal input terminal.
56	VDD	—	Power terminal.
57	VLCD	—	Condenser external terminals.
58	C1	—	
59	C2	—	
60	C3	—	
61 ∫ 63	COM1 ∫ COM3	O	Outputs terminals for LCD common signals.

■ MECHANISM PARTS LOCATION



SPECIFICATIONS

Pressure of Pressure roller	160gr
Wow & flutter	Less than 0.5% (WRMS)
Playback torque	20~45gr-cm
FF torque	50~150gr-cm
REW torque	50~150gr-cm

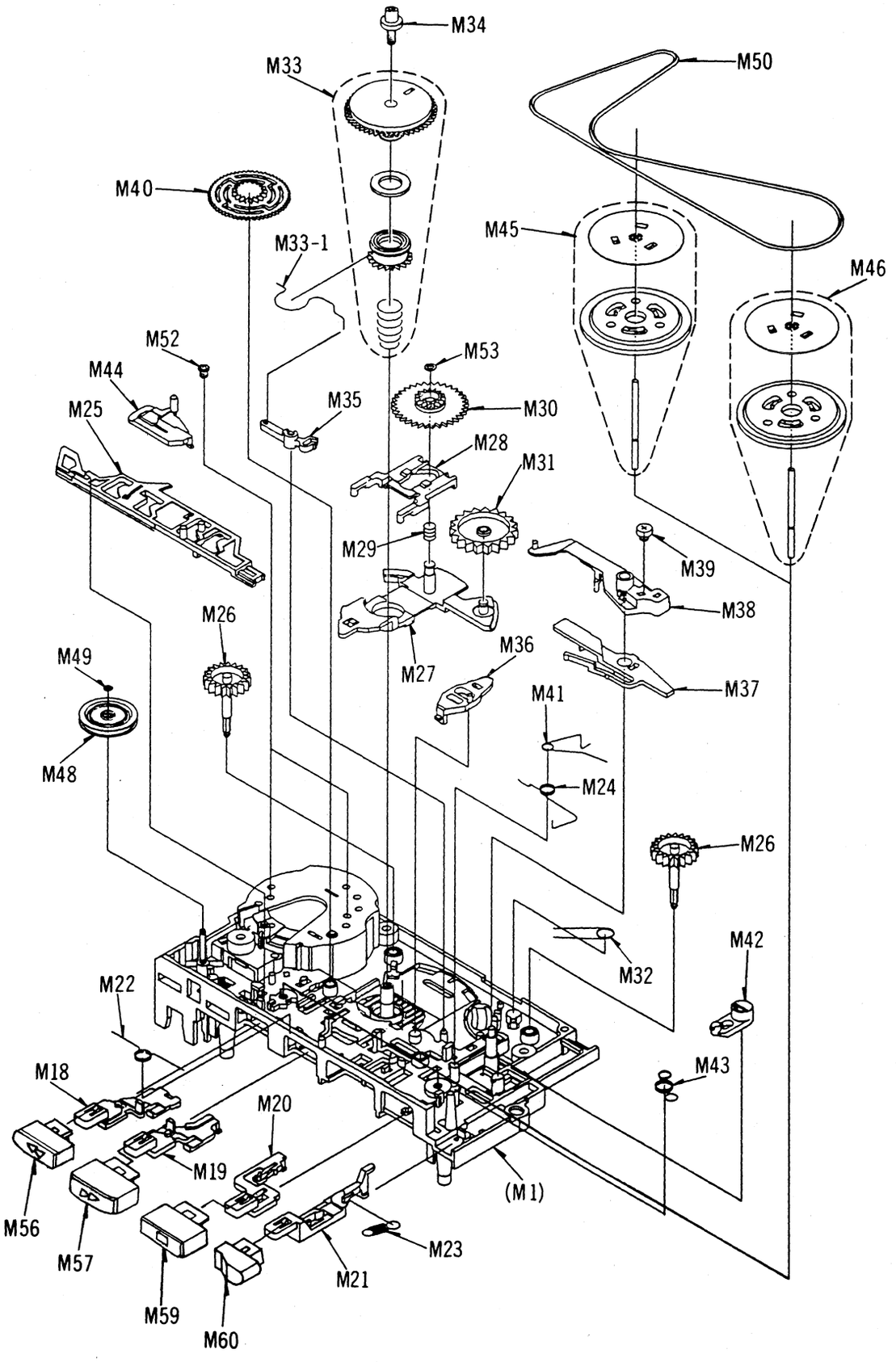
■ REPLACEMENT PARTS LIST

(T)Indicates parts that are supplied by TAMACO.

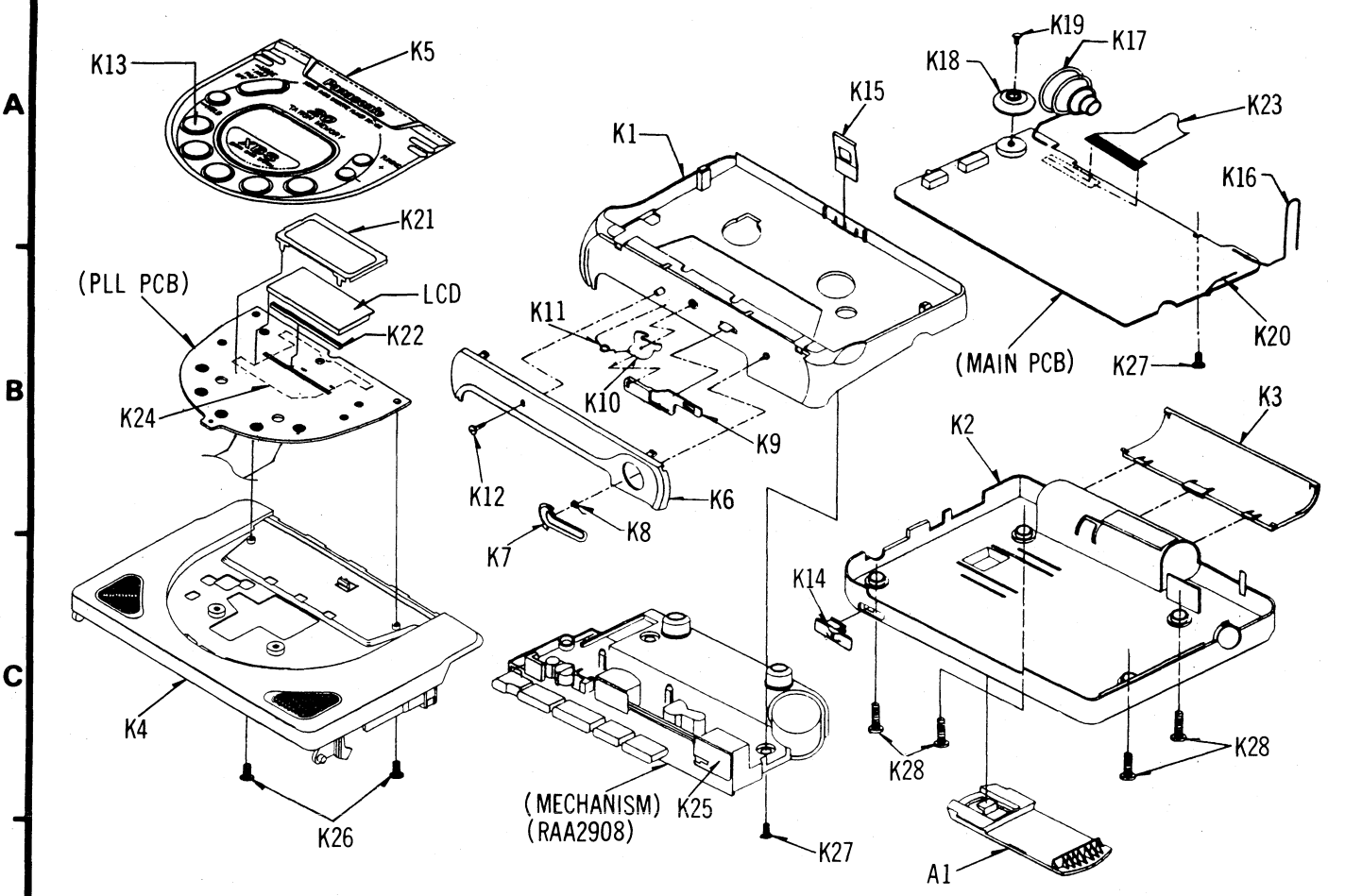
Ref No.	Parts No.	Parts Name & Description
	MECHANICAL PARTS	
M1	RFU227ZA	Chassis Ass'y(T)
M2	RFY1085ZA	Plate Slide R(T)
M3	RFY1086ZA	UD SUB Slide(T)
M4	RFU232ZA	UD Chassis Head(T)
M5	RFX184ZA	CAP H(T)
M6	RFE610ZA	UD Guide Tape(T)
M7	RFE611ZA	UD Screw AF(T)
M8	RFE612ZA	UD Screw AR(T)
M9	RFE613ZA	Screw(T)
M10	RFH62ZA	Head(T)
M10-1	RFE614ZA	Head Wire(T)
M10-2	RFA117ZA	Slide Switch Ass'y(T)
M10-3	RFE617ZA	Head Wire(T)
M11	RFS996ZA	UD Spring(T)
M12	RFR75ZA	Pinch Arm F(T)
M12-1	RFS1000ZA	Spring(T)
M13	RFR76ZA	Pinch Arm R(T)
M13-1	RFS1001ZA	Spring(T)
M14	RFS962ZA	Spring(T)
M15	RFJ101ZA	Reel CAP(T)
M16	RFS1002ZA	Spring(T)
M17	RFS1003ZA	Spring R(T)
M18	RFY1090ZA	Lever FF(T)
M19	RFY1091ZA	Lever REW(T)
M20	RFY1052ZA	Lever Stop(T)
M21	RFY1053ZA	Lever Direction(T)
M22	RFS974ZA	Spring(T)
M23	RFS1004ZA	Spring(T)
M24	RFS967ZA	Spring(T)
M25	RFD452ZA	Plate Lock(T)
M26	RFG167ZA	Gear Reel(T)
M27	RFY1077ZA	Arm TU(T)
M28	RFY1056ZA	Lever Wedge(T)
M29	RFS968ZA	Spring(T)
M30	RFG169ZA	Gear TU(T)
M31	RFG170ZA	Gear Idler B(T)
M32	RFS969ZA	Spring(T)
M33	RFG177ZA	Ass'y CLUTCH(T)
M33-1	RFS970ZA	Spring(T)
M34	RFE589ZA	Screw(T)
M35	RFY1057ZA	Arm Sensor(T)
M36	RFY1089ZA	Arm Change T(T)
M37	RFY1059ZA	Arm Cancel D(T)
M38	RFY1063ZA	Arm Cancel R(T)
M39	RFE561ZA	Screw(T)
M40	RFG171ZA	Gear Idler A(T)
M41	RFS972ZA	Spring Friction(T)
M42	RFY1061ZA	Arm Switch(T)
M43	RFS973ZA	Spring(T)
M44	RFY1062ZA	Arm Switch(T)
M45	RFF97ZA	Flywheel F Ass'y(T)
M46	RFF98ZA	Flywheel R Ass'y(T)
M47	RFN241ZA	Washer(T)
M48	RFQ74ZA	Pulley Idler(T)
M49	RFN242ZA	Washer(T)
M50	RFB129ZA	Belt(T)
M51	RFKPQV202P	Motor Ass'y(T)
M52	RFE616ZA	Screw, Motor(T)
M53	RFN253ZA	Washer(T)
M54	RFS986ZA	Spring(T)
M55	RFS995ZA	Spring Change(T)
M56	RGUT0039-K	FF, Button(T)
M57	RGUT0040-K	REW, Button(T)
M58	RGUT0041-K	PLAY, Button(T)
M59	RGUT0042-K	STOP, Button(T)
M60	RGUT0043-K	Direction, Button(T)

6 7 8 9

(Rear View)



■ CABINET PARTS LOCATION



■REPLACEMENT PARTS LIST

Notes: 1. The (T) Indicates parts that are supplied TAMACO
2. The (M) Indicates parts that are supplied MESA
3. The reference number SA erpresent the grease and tool used for this unit.

Ref. No.	Parts No.	Parts Name & Description	Values
CABINET PARTS			
K1	RKMT0015F-K	Front Cabinet	(T)
K2	RKST0016F-K	Rear Cabinet	(T)
K3	RKKT0007-K	Battery Cover	(T)
K4	RKFT0028-S	Cassette Cover	(T)
K5	RKWT0025-Q	LCD Panel	(T)
K6	RKQT0004-K	Upper Cabinet	(T)
K7	RGWT0011-S	Open Knob	(T)
K8	RMBT0008	Open Spring	(T)
K9	RMMT0008	Link	(T)
K10	RMAT0011	Lock Cam	(T)
K11	RMBT0007	Lock Spring	(T)
K12	RHDT0002-K	Screw	(T)
K13	RGUT0050-K	Band Button	(T)
K14	RGVT0019-K	XBS Knob	(T)
K15	RUS231TZB	Tape Spring	(T)
K16	RJCT30010	Battery Terminal (+)	(T)
K17	RJCT70001-1	Battery Terminal (-)	(T)
K18	RGWT0007-K	Volume Knob	(T)
K19	XSH17+3.5	Screw (Volume)	(T)
K20	RMET0002	Earth Terminal	(T)
K21	RMNT0024	LCD Holder	(T)
K22	RSQT0004	Electric Gum	(T)

Ref. No.	Parts No.	Parts Name & Description	Values
CABINET PARTS			
K23	RJBT0063A	FPC PWB	(T)
K24	RSCT0006	IC Shield	(T)
K25	RSCT0005	Shield Sheet	(T)
K26	XTNR17+4CFZ	Screw	(T)
K27	RHD006TZA	Screw	(T)
K28	XTNR2+10CFZ	Screw (CAB)	(M)
ACCESSORIES			
A1	RKQT0002-K	Belt Clip	(M)
A2	RFEV317P-KS	Innerphones	(T)
A3	RQTT0209-E	Instruction Book	(T)
PACKING MATERIALS			
P1	RPFT0015	Set Bag	(T)
P2	RPKT0135	Decoration Box	(T)
JIG/TOOL			
SA1	QZZCWAT	TEST TAPE(TAPE SPEED etc)	(M)
SA2	QZZCCFM	TEST TAPE(AZIMUTH/FREQ)	(M)

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